

# Joseph Masiero

## Curriculum Vitae

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CONTACT INFORMATION	Jet Propulsion Lab 4800 Oak Grove Dr M/S 183-301 Pasadena, CA 91109 USA	<i>Office:</i> (818) 393-5614 <i>E-mail:</i> joseph.masiero@jpl.nasa.gov <i>WWW:</i> <a href="http://science.jpl.nasa.gov/people/Masiero">http://science.jpl.nasa.gov/people/Masiero</a>
RESEARCH INTERESTS	Asteroid physical properties Asteroid families Numerical simulations of Solar system evolution Imaging polarimetry Thermal models of Solar system objects Polarimetric instrumentation and characterization Education & public outreach	
EDUCATION	<b>University of Hawaii at Manoa</b> , Honolulu, HI USA	
	Ph.D., Institute for Astronomy, September 2009	
	<ul style="list-style-type: none"><li>• Thesis Topic: <i>“Using rotation and polarization to probe the composition and surface properties of main belt asteroids”</i></li><li>• Advisor: Dr. Robert Jedicke</li></ul>	
	M.S., Institute for Astronomy, December 2006	
	<b>The Pennsylvania State University</b> , University Park, PA USA	
	B.S., Astronomy & Astrophysics, June 2004	
EMPLOYMENT		
	Group Supervisor Small Bodies of the Solar System Group	<b>Mar 2019 to present</b>
	Deputy Principal Investigator NEOWISE	<b>Jun 2017 to present</b>
	Scientist Jet Propulsion Laboratory	<b>Oct 2012 to present</b>
	NASA Postdoctoral Fellow Jet Propulsion Laboratory	<b>Oct 2009 to Sept 2012</b>
	Research Assistant Institute for Astronomy University of Hawaii	<b>May 2005 to Sept 2009</b>
	Teaching Assistant Dept of Physics and Astronomy University of Hawaii	<b>Aug 2004 to May 2005</b>
	Research Assistant Dept of Astronomy & Astrophysics Pennsylvania State University	<b>Jan 2001 to Aug 2004</b>
MISSION TEAM MEMBERSHIPS	NEOCam/NEO Surveyor Investigation Team Member NEOWISE Science Team Member	

## ADVISING

Patrice Smith, JPL Undergraduate Internship mentor	<b>Summer 2019</b>
Nathan Blair, JPL Undergraduate Internship mentor	<b>Summer 2019</b>
Andy Lopez Oquendo, JPL Graduate Internship co-mentor	<b>Summer 2019</b>
Ian Diaz-Vachier, JPL Undergraduate Internship co-mentor	<b>Summer 2019</b>
Denise Hung, PhD thesis committee member	<b>Summer 2018-present</b>
Lean Teodoro, JPL Undergraduate Internship mentor	<b>Summer 2018</b>
Nathan Blair, JPL Undergraduate Internship mentor	<b>Summer 2018</b>
Hannah Reutershan, JPL Undergraduate Internship co-mentor	<b>Summer 2018</b>
Stephanie Spear, JPL Undergraduate Internship co-mentor	<b>Summer 2018</b>
Dave Milewski, NASA ASTAR Fellowship mentor, Thesis Committee Member	<b>Jan 2018 - present</b>
Erin Redwing, JPL Undergraduate Internship mentor	<b>Summer 2017</b>
Yasuhiro Hasegawa, JPL Postdoc co-mentor	<b>Fall 2015-Fall 2017</b>
Mario Cabrera, JPL Undergraduate Internship mentor	<b>Summer 2013-Spring 2014</b>
Greta Cukrov, Undergraduate Internship co-mentor	<b>Summer 2013</b>
Elizabeth Clyne, Undergraduate Internship co-mentor	<b>Spring 2013</b>
Carrie Nugent, Graduate Internship co-mentor	<b>Summer 2012-Fall 2012</b>
Mario Cabrera, CAMPARE Undergraduate Internship co-mentor	<b>Summer 2012</b>
Wenli Mo, Undergraduate Internship co-mentor	<b>Summer 2011-Spring 2012</b>
Jessica Watkins, Graduate Internship co-mentor	<b>Summer 2011</b>
Emma Hand, Undergraduate Internship co-mentor	<b>Spring 2011</b>
Erin Blauvelt, Undergraduate Internship co-mentor	<b>Spring 2011</b>
Emily DeBaun, Undergraduate Internship co-mentor	<b>Fall 2010</b>
Ashlee Wilkins, Undergraduate Internship co-mentor	<b>Summer 2010</b>
Dillon Elsbury, High School Internship co-mentor	<b>Summer 2010</b>
Tommy Gautier, High School Internship co-mentor	<b>Summer 2010</b>
Stephanie Gomillion, Undergraduate Internship co-mentor	<b>Spring 2010</b>

## SUCCESSFUL GRANTS AND PROPOSALS

Co-author on the proposal for the 2015 Discovery-class mission NEOCam, the Near-Earth Object Camera. NEOCam was selected to proceed to Extended Phase-A Concept Study.

Co-author on the proposal to restart the NEOWISE space-based near-Earth object discovery and characterization survey. Mission was funded to continue survey operations through 2017.

Science PI for 2012 NASA Planetary Geology and Geophysics proposal: "Studying the Origin and Evolution of Main Belt Asteroid Families" - Funded at \$150K over two years.

Co-author on the proposal for the 2010 Discovery-class mission NEOCam, the Near-Earth Object Camera. NEOCam was awarded technology development funding as a result of this proposal.

HONORS AND  
AWARDS

- Asteroid 8255 Masiero (1981 EZ18) named in honor 2018
- JPL Voyager Award: NEOWISE and NEOCam scientific analysis 2018
- 6 JPL Team Awards 2016-2019
- 2 NASA Group Achievement Awards 2014-2016
- NASA Early Career Public Achievement Medal 2016
- JPL Voyager Award: NEOWISE scientific analysis 2015
- JPL Science Division Mariner Award: NEOWISE restart 2014
- Honorary Officer, NASA's First Planetary Defense Squadron (Provisional) 2011
- NASA Postdoctoral Program Fellowship 2009 - 2012
- Graduated with Distinction and Honors (PSU) 2004
- Penn State Eberly College of Science Braddock Scholar 2000 - 2004
- Penn State Schreyer Honors College Scholar 2000 - 2004

PUBLICATIONS

- Co-author on over 450 Minor Planet Electronic Circulars (MPECs) and International Astronomical Union Circulars (IAUCs) describing observations of NEOs, comets, and other interesting small Solar system bodies.
- **Masiero, J.**; Smith, P.; Teodoro, L.; et al. “Physical Properties of 299 NEOs Manually Recovered in Over Five Years of NEOWISE Survey Data”, PSJ, in preparation.
- **Masiero, J.**; Mainzer, A.; Bauer, J.; et al. “Asteroid Diameters and Albedos from NEOWISE Reactivation Mission Years Four and Five”, 2020, PSJ, in review.
- Williamson, B.; Sonnett, S.; ... ; **Masiero, J.**; et al., “Rotational Properties of Three Hilda Asteroids”, 2020, Minor Planet Bulletin, 47, 66.
- **Masiero, J.**; Wright, E.L.; Mainzer, A.K., “Thermophysical modeling of NEOWISE observations of DESTINY+ targets Phaethon and 2005 UD”, 2019, AJ, 158, 97.
- Reddy, V.; Kelley, M.S.; ...; **Masiero, J.**; et al., “Near-Earth asteroid 2012 TC4 observing campaign: Results from a global planetary defense exercise”, 2019, Icarus, 326, 133.
- Cutri, R.M.; **Masiero, J.**; Sonnett, S.; Mainzer, A. “Mid-infrared Lightcurves of (523806) 2002 WW17”, 2019, Minor Planet Bulletin, 46, 216.
- Mainzer, A.; Bauer, J.; ...; **Masiero, J.**; et al., “NEOWISE Diameters and Albedos V2.0”. 2019, NASA Planetary Data System, urn:nasa:pds:neowise.diameters\_albedos::2.0.
- **Masiero, J.**; Redwing, E.; Mainzer, A.; et al., “Small and Nearby NEOs Observed by NEOWISE During the First Three Years of Survey: Physical Properties”, 2018, AJ, 156, 60.
- **Masiero, J.**; Mainzer, A.; Wright, E.L., “A Family-Based Method of Quantifying NEOWISE Diameter Errors”, 2018, AJ, 156, 62.
- Rosser, J.; Bauer, J.; Mainzer, A.; Kramer, E.; **Masiero, J.**; et al., “Behavioral Characteristics and CO+CO<sub>2</sub> Production Rates of Halley-Type Comets Observed by NEOWISE”, 2018, AJ, 155, 164.
- Boyajian, T.; ...; **Masiero, J.**; et al., “The First Post-Kepler Brightness Dips of KIC 8462852”, 2018, ApJL, 853, 8.
- Aljbaae, S.; Carruba, V.; **Masiero, J.**; Domingos, R.; Huaman, M., “The Maria asteroid family”, 2017, MNRAS, 471, 4820.
- **Masiero, J.**, “Palomar Optical Spectrum of Hyperbolic Near-Earth Object A/2017 U1”. 2017, arXiv:1710.09977.
- **Masiero, J.**; Nugent, C.; Mainzer, A.; et al., “NEOWISE Reactivation Mission Year Three: Asteroid Diameters and Albedos”. 2017, AJ, 154, 168.
- Bauer, J.; Grav, T.; ...; **Masiero, J.**; et al., “Debiasing the NEOWISE Cryogenic Mission Comet Populations”. 2017, AJ, 154, 53.
- Aljbaae, S.; Carruba, V.; **Masiero, J.**; Domingos, R.; Huaman, H., “The Rafita Asteroid Family”. 2017, MNRAS, 467, 1016.
- Kramer, E.; Bauer, J.; ...; **Masiero, J.**; et al., “The Perihelion Emission of Comet C/2010 L5 (WISE)”. 2017, ApJ, 838, 58.
- Nugent, C.; Mainzer, A.; **Masiero, J.**; Wright, E.L.; Bauer, J.; et al., “Observed asteroid surface area in the thermal infrared”. 2017, AJ, 153, 90.
- Nugent, C.; Mainzer, A.; Bauer, J.; Cutri, R.M.; Kramer, E.A.; Grav, T.; **Masiero, J.**; et al., “NEOWISE Reactivation Mission Year Two: Asteroid Diameters and Albedos”. 2016,

AJ, 152, 63.

- Wright, E.L.; Mainzer, A.; **Masiero, J.**; Grav, T.; Bauer, J., “*The Albedo Distribution of Near Earth Asteroids*”. 2016, AJ, 152, 79.
- Mainzer, A.; Bauer, J.; ...; **Masiero, J.**; et al., “*NEOWISE Diameters and Albedos V1.0*”. 2016, NASA Planetary Data System, EAR-A-COMPIL-5-NEOWISEDIAM-V1.0.
- Hasegawa, Y.; Turner, N.J.; **Masiero, J.**; et al., “*Forming Chondrites in a Solar Nebula with Magnetically Induced Turbulence*”. 2016, ApJL, 802, 12.
- Kaluna, H.; **Masiero, J.**; Meech, K.; “*Space weathering trends among carbonaceous asteroids*”. 2016, Icaurs, 264, 62.
- Nugent, C.; Mainzer, A.; **Masiero, J.**; Bauer, J.; Cutri, R.M.; et al.; “*NEOWISE Reactivation Mission Year One: Preliminary Asteroid Diameters and Albedos*”. 2015, ApJ, 814, 117.
- Bauer, J.M.; Stevenson, R.; Kramer, E.; Mainzer, A.; Grav, T.; **Masiero, J.**; et al.; “*The NEOWISE-discovered comet population and the CO+CO<sub>2</sub> production rates*”. 2015, ApJ, 814, 85.
- **Masiero, J.**; Carruba, V.; Mainzer, A.; Bauer, J.M.; Nugent, C.; “*The Euphrosyne Family’s Contribution to the Low Albedo Near-Earth Asteroids*”. 2015, ApJ, 809, 179.
- Grav, T.; Bauer, J.M.; Mainzer, A.K.; **Masiero, J.**; Nugent, C.R.; Cutri, R.M.; Sonnett, S.; Kramer, E.; “*NEOWISE: Observations of the Irregular Satellites of Jupiter and Saturn*”. 2015, ApJ, 809, 3.
- Buratti, B.; Hicks, M.D.; Dalba, P.A.; Chu, D.; O’Neill, A.; Hillier, J.K.; **Masiero, J.**; Banholzer, S.; Rhoades, H.; “*Photometry of Pluto 2008-2014: Evidence of Ongoing Seasonal Volatile Transport and Activity*”. 2015, ApJL, 804, 6.
- Mainzer, A.; Grav, T.; Bauer, J.; Conrow, T.; Cutri, R.M.; Dailey, J.; Fowler, J.; Giorgini, J.; Jarrett, T.; **Masiero, J.**; et al.; “*Survey Simulations of a New Near-Earth Asteroid Detection System*”. 2015, AJ, 149, 172.
- **Masiero, J.R.**; DeMeo, F.; Kasuga, T.; Parker, A.H.; “*Asteroid Family Physical Properties*”. 2015, Asteroids IV (eds. P. Michel, F. DeMeo, W.F. Bottke), University of Arizona Press, 323.
- Sonnett, S.; Mainzer, A.; Grav, T.; **Masiero, J.**; Bauer, J.; “*Binary Candidates in the Jovian Trojan and Hilda populations from NEOWISE lightcurves*”. 2015, ApJ, 799, 191.
- Mainzer, A.; Bauer, J.; Cutri, R.; Grav, T.; **Masiero, J.**; et al.; “*Initial performance of the NEOWISE Reactivation Mission*”. 2014, ApJ, 792, 30.
- **Masiero, J.R.**; Grav, T.; Mainzer, A.K.; Nugent, C.R.; Bauer, J.M; Stevenson, R.; Sonnett, S.; “*Main-belt Asteroids with WISE/NEOWISE: Near-Infrared Albedos*”. 2014, ApJ, 791, 121.
- Stevenson, R.; Bauer, J.; Kramer, E.; Grav, T.; Mainzer, A.; & **Masiero, J.**; “*Lingering grains of truth around comet 17P/Holmes*”. 2014, ApJ, 787, 116.
- Mainzer, A.; Bauer, J.; Grav, T.; **Masiero, J.**; et al.; “*The Population of Tiny Near-Earth Objects Observed by NEOWISE*”. 2014, ApJ, 784, 110.
- Ganguly, R.; Lynch, R.S.; Charlton, J.C.; ...; **Masiero, J.R.**; et al.; “*A census of quasar-intrinsic absorption in the Hubble Space Telescope archive: systems from high-resolution echelle spectra*”. 2013, MNRAS, 435, 1233.
- Bauer, J.M.; Grav, T.; Blauvelt, E.; Mainzer, A.K.; **Masiero, J.R.**; Stevenson, R.; et al.; “*Centaurs and Scattered Disk Objects in the Thermal Infrared: Analysis of WISE/NEOWISE Observations*”. 2013, ApJ, 773, 22.
- **Masiero, J.R.**; Mainzer, A.K.; Bauer, J.M; Grav, T.; Nugent, C.R.; Stevenson, R.; “*Asteroid Family Identification Using the Hierarchical Clustering Method and WISE/NEOWISE Physical Properties*”. 2013, ApJ, 770, 7.
- Herenz, P.; Richter, P.; Charlton, J.C.; **Masiero, J.R.**; “*The Milky Way halo as a QSO absorption-line system. New results from an HST/STIS absorption-line catalogue of Galactic high-velocity clouds*”. 2013, A&A, 550, A87.
- Mainzer, A.; Grav, T.; **Masiero, J.R.**; Bauer, J.; et al.; “*Physical Parameters of Asteroids Estimated from the WISE 3 Band Data and NEOWISE Post-Cryogenic Survey*”. 2012, ApJL, 706, 12.
- Stevenson, R.; Kramer, E.A.; Bauer, J.M; **Masiero, J.R.**; Mainzer A.; “*Characterization of Active Main Belt Object P/2012 F5 (Gibbs): A Possible Impacted Asteroid*”. 2012, ApJ,

759, 142.

- **Masiero, J.R.**; Mainzer A.; Grav, T.; Bauer, J.; Nugent, C.; Cabrera, M.S.; “*Preliminary Analysis of WISE/NEOWISE 3-Band Cryogenic and Post-Cryogenic Observations of Main Belt Asteroids*”. 2012, ApJL, 759, 8.
- Grav, T.; Mainzer A.; Bauer, J.; **Masiero, J.R.**; Nugent, C.; “*WISE/NEOWISE Observations of the Jovian Trojan Population: Taxonomy*”. 2012, ApJ, 759, 49.
- **Masiero, J.R.**; Mainzer, A.; Grav, T.; Bauer, J.; Jedicke, R.; “*Revising the age for the Baptistina asteroid family using WISE/NEOWISE data*”. 2012, ApJ, 759, 14.
- Bauer, J.M.; Kramer, E., Mainzer, A.K.; Stevenson, R., Grav, T.; **Masiero, J.**; et al. “*WISE/NEOWISE Preliminary Analysis and Highlights of the 67p/Churyumov-Gerasimenko near Nucleus Environs*”. 2012, ApJ, 758, 18.
- Nugent, C.; Mainzer, A.; **Masiero, J.**; Grav, T.; Bauer, J.; “*The Yarkovsky Drift’s Influence on NEAs: Trends and Predictions with NEOWISE Measurements*”. 2012, AJ, 144, 75.
- Mainzer, A.; Grav, T.; **Masiero, J.**; Bauer, J.; et al; “*Characterizing Subpopulations within the near-Earth Objects with NEOWISE: Preliminary Results*”. 2012, ApJ, 752, 110.
- **Masiero, J.**; Mainzer, A.; Grav, T.; et al; “*A revised asteroid polarization-albedo relationship using WISE/NEOWISE data*”. 2012, ApJ, 749, 104.
- Bauer, J.M.; Mainzer, A.K.; Grav, T.; Walker, R.G.; **Masiero, J.**; et al. “*WISE/NEOWISE observations of Active Bodies in the Main Belt*”. 2012, ApJ, 747, 49.
- Mainzer, A.; **Masiero, J.**; Grav, T.; Bauer, J.; et al; “*NEOWISE Studies of Asteroids with Sloan Photometry: Preliminary Results*”. 2011, ApJ, 745, 7.
- Grav, T.; Mainzer, A.; Bauer, J.; **Masiero, J.**; et al; “*WISE/NEOWISE Observations of the Hilda Population: Preliminary Results*”. 2011, ApJ, 744, 197.
- Mainzer, A.; Grav, T.; Bauer, J.; **Masiero, J.**; et al; “*NEOWISE Observations of Near-Earth Objects: Preliminary Results*”. 2011, ApJ, 743, 156.
- Grav, T.; Mainzer, A.; Bauer, J.; **Masiero, J.**; et al; “*WISE/NEOWISE Observations of the Jovian Trojans: Preliminary Results*”. 2011, ApJ, 742, 40.
- Mainzer, A.; Grav, T.; **Masiero, J.**; Bauer, J.; et al; “*NEOWISE Studies of Spectrophotometrically Classified Asteroids: Preliminary Results*”. 2011, ApJ, 741, 90.
- **Masiero, J.**; Mainzer, A.; Grav, T.; et al; “*Main Belt Asteroids with WISE/NEOWISE I: Preliminary Albedos and Diameters*”. 2011, ApJ, 741, 68.
- Sonnnett, S.; Kleyna, J.; Jedicke, R. & **Masiero, J.** “*Limits on the Size and Orbit Distribution of Main Belt Comets*”. 2011, Icarus, 215, 534.
- Bauer, J.M.; Walker, R.G.; Mainzer, A.K.; **Masiero, J.**; et al. “*WISE/NEOWISE observations of comet 103P/Hartley 2*”. 2011, ApJ, 738, 171.
- Mainzer, A.; Grav, T.; **Masiero, J.**; et al; “*Thermal Model Calibration for Minor Planets Observed with WISE/NEOWISE: Comparison with Infrared Astronomical Satellite*”. 2011, ApJL, 737, 9.
- Mainzer, A.; Grav, T.; **Masiero, J.**; et al; “*Thermal Model Calibration for Minor Planets Observed with Wide-field Infrared Survey Explorer/NEOWISE*”. 2011, ApJ, 736, 100.
- Mainzer, A.; Bauer, J.; Grav, T.; **Masiero, J.**; et al; “*Preliminary Results from NEOWISE: An Enhancement to the Wide-field Infrared Survey Explorer for Solar System Science*”. 2011, ApJ, 731, 53.
- **Masiero, J.** “*Albedo heterogeneity on the surface of (1943) Anteros*”. 2010, Icarus, 207, 795.
- Levesque, Emily M.; Bloom, Joshua S.; ...; **Masiero, Joseph**; ... “*GRB090426: the environment of a rest-frame 0.35-s gamma-ray burst at a redshift of 2.609*”. 2010, MNRAS, 401, 963.
- **Masiero, J.**; Hartzell, C.; Scheeres, D.J. “*The effect of the dust size distribution on asteroid polarization*”. 2009, AJ, 138, 1557.
- Price, A.; **Masiero, J.**; et al. “*Polarimetry and the Long Awaited Superoutburst of BZ UMa*”. 2009, PASP, 121, 1205.
- **Masiero, J.**; Jedicke, R.; Ďurech, J.; Gwyn, S.; Denneau, L.; Larsen, J. “*The Thousand Asteroid Light Curve Survey*”. 2009, Icarus, 204, 145.
- Richter, Philipp; Charlton, Jane C.; Fangano, Alessio P. M.; Ben Bekhti, Nadya; **Masiero, Joseph R.** “*A population of weak metal-line absorbers surrounding the Milky Way*”. 2009, ApJ, 695, 1613.

- **Masiero, J.**; Cellino, A. “*Polarization of asteroid (387) Aquitania: the newest member of a class of large inversion angle asteroids*”. 2009, Icarus, 199, 333.
- Milutinovic, N.; Misawa, T.; Lynch, R. S.; **Masiero, J. R.**; Palma, C.; Charlton, J. C.; Kirkman, D.; Bockenhauer, S.; Tytler, D. “*A Catalog of Absorption Lines in Eight HST/STIS E230M 1.0 < z < 1.7 Quasar Spectra*”. 2007, MNRAS, 382, 1094.
- **Masiero, J.**; Hodapp, K.; Harrington, D.; Lin, H. “*Commissioning of the Dual-Beam Imaging Polarimeter for the UH 88-inch telescope*”. 2007, PASP, 119, 1126.
- Maybhate, Aparna; **Masiero, Joseph**; Hibbard, J. E.; Charlton, Jane C.; Palma, Christopher; Knierman, Karen A.; and English, Jayanne. “*An HI Threshold for Star Cluster Formation in Tidal Debris*”. 2007, MNRAS, 381, 59.
- Kubica, J.; Denneau, L.; Grav, T.; Heasley, J.; Jedicke, R.; **Masiero, J.**; Milani, A.; Moore, A.; Tholen, D.; Wainscoat, R.J. “*Efficient intra- and inter-night linking of asteroid detections using kd-trees*”. 2007, Icarus, 189, 151.
- Milutinovic, Nikola; Rigby, Jane R.; **Masiero, Joseph R.**; Lynch, Ryan S.; Palma, Chris; and Charlton, Jane C. “*The Nature of Weak MgII Absorbing Structures*”. 2006, ApJ, 641, 190.
- Narayanan, Anand; Charlton, Jane C.; **Masiero, Joe R.**; and Lynch, Ryan. “*A Survey of Analogs to Weak MgII Absorbers in the Present*”. 2005, ApJ, 632, 92.
- **Masiero, Joseph R.**; Charlton, Jane C.; Ding, J.; Churchill, Christopher W.; and Kacprzak, G. “*Models of Five Absorption Line Systems Along the Line of Sight Toward PG 0117+213*.” 2005, ApJ, 623, 57.
- Ganguly, Rajib; **Masiero, Joseph**; Charlton, Jane C.; and Sembach, Ken R. “*An Intrinsic Absorption Complex Toward RXJ1230.8+0115: Geometry and Photoionization Conditions*.” 2003, ApJ, 598, 922-934.

#### INVITED

#### RESEARCH TALKS

- **1/7/20:** American Astronomical Society Meeting: Planets, exoplanets, and planet formation with Gemini large and long programs (LLPs) Special Session, “*Chasing Near-Earth Asteroids at the Bottom of the Sky*”
- **12/18/19:** JPL Invited Seminar, “*Hazards from Near-Earth Asteroids*”)
- **12/9/19:** Tucson Near-Earth Asteroid Workshop, “*NEOWISE Mission Update*”)
- **10/4/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*The NEOWISE view of the Solar System*”
- **10/3/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*Asteroid dynamics, and family age dating*”
- **10/1/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*Determining asteroid physical properties from remote sensing*”
- **9/30/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*An Overview of the Small Bodies of the Solar System*”
- **7/29/19:** Team Radar Meeting, LPI, “*NEOWISE and radar, Better together*”
- **6/24/19:** NASA Small Body Assessment Group Meeting, “*NEOCam update*”
- **5/29/19:** Queen’s University Belfast Seminar, “*The NEOCam Mission: Goals, Design, and Status*”
- **4/19/19:** UCLA Planetary Science Seminar, “*The NEOCam Mission: Goals, Design, and Status*”
- **8/3/17:** Las Cumbres Observatory, Invited Seminar, “*Asteroid Families: Properties, Origins, and Evolution*”
- **4/12/17:** Invited Talk, Asteroids, Comets, Meteors 2017 Conference, Montevideo, Uruguay, “*NEOWISE and NEOCam: Present and Future NEO Surveys*”
- **11/17/16:** Astronomy Department Colloquium, University of Washington, “*NEOWISE: Searching the infrared sky for asteroids and comets*”
- **10/10/16:** Invited Speaker: Hotwiring the Transient Universe 5, Villanova, PA, “*NEOWISE: Mission Overview and Recent Results*”
- **09/16/16:** Lunar and Planetary Institute Colloquium, “*NEOWISE: Mission Overview and Recent Results*”
- **05/20/16:** Invited Speaker: Greater IPAC Technology Symposium 2016, “*NEOCam: The Near-Earth Object Camera*”

- **04/23/15:** UCLA Planetary Science Seminar, “Physical properties of Asteroid Families”
- **03/09/15:** NRC Herzberg Astronomy and Astrophysics, Univ. Victoria Seminar, “Asteroid family physical properties”
- **08/25/14:** Invited Speaker: Small Bodies Dynamics Meeting 2014, Ubatuba, Brazil, “Determining ages of asteroid families using new physical property data”
- **07/01/14:** Invited Speaker: Asteroids, Comets, Meteors 2014, Helsinki, Finland, “Physical Properties of Asteroid Families”
- **02/15/13:** iPLEX lunch talk, University of California, Los Angeles, “Asteroid Families as a Probe of the History of the Solar System/Chelyabinsk”
- **01/17/13:** Invited Colloquium, University of British Columbia, “The WISE view of the Solar System”
- **03/09/12:** NOAO Lunch Talk, “Recent Results from the NEOWISE Mid-IR Solar System Survey”
- **03/07/12:** NASA Jet Propulsion Laboratory Seminar, “Asteroid Families: Compositions, Collisions, and the Chronology of the Solar System”
- **10/19/10:** NOAO Coffee Discussion, “WISE: The Solar System and Beyond”
- **10/14/10:** JPL Postdoc Seminar, “WISE Observations of Main Belt Asteroids”
- **10/22/09:** UCLA Lunch Talk, “The Thousand Asteroid Light Curve Survey”
- **09/25/09:** Ph.D. Defense, “Light Curve Signatures of the Physical Properties of Small Asteroids”
- **03/20/09:** Southwest Research Institute Colloquium, “The Thousand Asteroid Light Curve Survey”
- **11/21/08:** Canada-France-Hawaii Telescope Seminar, “The Thousand Asteroid Light Curve Survey”
- **12/14/06:** Lunchtalk presentation to the US Naval Academy Physics and Astronomy Dept, “The Thousand Asteroid Light Curve Survey”

PUBLIC TALKS,  
ARTICLES, AND  
INTERVIEWS

- **08/25/19:** UCLA Meteorite Gallery Public Talk, “Before they were meteorites: the hazard from Near-Earth Objects”
- **07/19/19:** San Diego Comic Con 2019 Panelist, “Ripped from the Pulp: Real-World Threats to Mankind”
- **09/21/18:** Glendale College Planetarium, “Near Earth Asteroids”
- **04/24/18:** Carnegie Observatories Astronomy Lecture Series, “You Can’t Make a Solar System Without Breaking a Few Asteroids: The Tale of Asteroid Families”
- **04/18/18:** Seattle Astronomical Society, “Interstellar Asteroid ‘Oumuamua”
- **04/10/18:** Penn State Astronomy Dept Friedman Lecture, “You Can’t Make a Solar System Without Breaking a Few Asteroids: The Tale of Asteroid Families”
- **04/06/18:** Orange County Astronomers, “Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination”
- **04/4/18:** Mt Holyoke Astronomy Class Lecture, “Interstellar Asteroid ‘Oumuamua”
- **02/03/18:** Riverside Astronomical Society, “Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination”
- **01/18/18:** Los Angeles Chancery Club, “Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination”
- **08/20/17:** Wine Country Eclipse Festival, “A Tour of the Solar System”
- **02/24/17:** Ventura County Astronomical Society, “Asteroid Families: A History Told Through Collisions”
- **12/04/16:** SpacePod Interview: “Asteroid families with Dr. Masiero”
- **11/16/16:** Seattle Astronomy Society, University of Washington, “NEOWISE: Searching the infrared sky for asteroids and comets”
- **01/26/16:** Planetary Society Guest Blogger: “Running Down A Comet”
- **08/02/15:** SpacePod Interview: “Polarized light with Dr. Masiero”
- **06/06/13:** The Blue Dot Report: “Families in the Asteroid Belt”
- **11/05/10:** St. Philip School Reverse Science Fair Day: “A Universe of Infrared”
- **02/12-13/08:** Journey Through the Universe, Waiakea Intermediate; Hilo, HI: “Formation of the Solar System”

- **06/07/08:** Habitat Rehab Program; Kaneohe, HI: “*Tour of the Solar System*”
- **02/07/08:** Journey Through the Universe, Kapiolani Elementary; Hilo, HI: “*Energy in the Universe*”
- **12/19/07:** Lincoln Elementary School 5th grade; Roxbury, NJ: “*Tour of the Solar System*”
- **08/04/07:** Girl Scout Science Camp; Camp Erdman, HI: “*Aliens in the Solar System?*”
- **01/23/07:** Journey Through the Universe, Waiakea Elementary; Hilo, HI: “*Tour of the Solar System*”
- **12/19/06:** Lincoln Elementary School 5th grade; Roxbury, NJ: “*Tour of the Solar System*”
- **06/17/06:** Habitat Rehab Program; Kaneohe, HI: “*Tour of the Solar System*”
- **12/20/05:** Lincoln Elementary School 5th grade; Roxbury, NJ: “*Tour of the Solar System*”

**PROFESSIONAL  
SERVICE**

NASA Planetary Data System Reviewer	<b>2019</b>
JPL Small Bodies Hiring Committee Co-Chair	<b>2019</b>
IAU 2018 Focus Meeting “A Century of Asteroid Families” Organizer, SOC Chair, Proceedings Editor	<b>2016-2019</b>
Member of the JPL Palomar Allocation Committee	<b>Oct 2017-present</b>
External Member for 4 TACs including: Kepler2, Taiwan, Subaru	<b>Nov 2014-present</b>
Member of the NOAO Solar System TAC	<b>Oct 2014-May 2017</b>
WISE at 5 Science Organizing Committee/Local Organizing Committee	<b>2014-2015</b>
<i>Asteroids IV</i> Science Organizing Committee	<b>2013-2015</b>
NASA ROSES and NSF review panels Panel Chair for 3; Panelist for 9 others; External for 9	<b>2012-present</b>

**TEACHING**

Planetary Science Guest Lecturer, 4-lecture series, Brazilian National Observatory 'XXIV Cycle of Special Courses'	<b>Fall 2019</b>
Learning Works Astronomy team-teacher, Learning Works School Pasadena	<b>Fall 2013</b>
Inquiry-based photometer lab for Electro-Optics Class, Maui Community College	<b>3 &amp; 5 March 2008</b>
Teaching Assistant, Dept of Physics and Astronomy, University of Hawaii	<b>Aug 2004 to May 2005</b>
“Mission to Mars” Instructor, Action Potential Science Experience, Pennsylvania State University	<b>Jul 2004</b>
Teaching Assistant, Duke Talent Identification Program at the Pisgah Astronomical Research Institute, Rosman, NC	<b>Jun 2004</b>
Teaching Assistant, Duke Talent Identification Program at the Pisgah Astronomical Research Institute, Rosman, NC	<b>Jun 2003</b>

**OUTREACH  
EVENTS**

JPL Open House	• Volunteer	<b>2010-present</b>
Eliot Arts Magnet Academy	• Infrared Camera Presentation	<b>2018-present</b>
Mount Wilson Class Visits	• Volunteer Presenter	<b>2017-2018</b>
Learning Works visits to Caltech	• Volunteer Presenter	<b>2012-2015</b>
Twenty Wonder Festival of the Mind	• Infrared Camera Presentation	<b>2012</b>
IfA Graduate Education and Public Outreach Committee (GEPOC)	• Volunteer	<b>2004-2009</b>
	• Founder/Organizer	<b>2004-2008</b>
	• see <a href="http://www.ifa.hawaii.edu/gepoc">www.ifa.hawaii.edu/gepoc</a> for more information on GEPOC	
IfA Deep Impact Outreach Team	• Oahu Coordinator	<b>2005</b>
Penn State Astrofest	• Volunteer	<b>2002-2005</b>
	• Volunteer Coordinator	<b>2003</b>

**MEMBERSHIP**

Professional Societies:

- International Astronomical Union **from 2012**
- IAU Division III Commission 15 **2012-2015**
- AAS Division of Planetary Science **from 2007**
- American Astronomical Society **from 2001**

**ACTIVITIES**

- Glendale Woodturners Guild,  
Member **2018-present**
- LA County Fair: Biscuits (1<sup>st</sup> place: 2017,2019), French Bread (1<sup>st</sup> place: 2017,2019)
- Penn State Schreyer Honors College,  
Applicant Interviewer **2013 - 2017**
- Arroyo Food Co-op, Board of Directors,  
Director **05/2011 - 04/2015**
- Bagpiper with the Celtic Pipes and Drums of Hawaii **01/2008 - 09/2009**